CLAIMS

1. A method of controlling a cell change in a mobile communications network, in which data is transmitted from a core network node to a mobile station in packets, and in which data packets are stored in a respective radio access node before transmission to the mobile station, the method comprising:

detecting a cell change of a mobile station, from a first cell served by a first cell radio access node to a second cell served by a second cell radio access node;

sending a first message from the core network node to the first cell radio access node;

in response to said first message, discarding any data packets stored in the first cell radio access node for transmission to the mobile station, and sending a reply message to the core network node; and

in response to said reply message, transmitting said data packets, discarded in the first cell radio access node, from the core network node to the second cell radio access node.

2. A method as claimed in claim 1, wherein the network is a GPRS network, and the core network node is an SGSN.

3. A method as claimed in claim 2, wherein the first message is a FLUSH-LL command.

4. A method as claimed in claim 2, wherein the data packets comprise data packets transmitted in LLC unacknowledged mode.

5. A method as claimed in claim 2, wherein the second cell is in a different Routing Area or different Network Service Entity from the first cell.

6. A method as claimed in claim 1, wherein data may be transmitted from the core network node to a radio access node in acknowledged mode or in unacknowledged mode, wherein data transmitted in unacknowledged mode are retained in the core network node for a predetermined time period, and wherein said reply message allows the data packets discarded in the first cell radio access node to be identified in the core network node.

7. A method as claimed in claim 6, wherein said reply message indicates the number of data packets discarded in the first cell radio access node.

8. A method as claimed in claim 6, wherein said reply message specifically identifies the data packets discarded in the first cell radio access node.

9. A method as claimed in claim 6, wherein the network is a GPRS network, and the core network node is an SGSN.

10. A method as claimed in claim 6, wherein the network is a GPRS network, and the acknowledged mode and unacknowledged mode are LLC-acknowledged mode and LLC-unacknowledged mode respectively.

11. A method as claimed in claim 9, wherein the first message is a FLUSH-LL command.

12. A method as claimed in claim 1, wherein said reply message includes copies of the data packets discarded in the first cell radio access node.

13. A method as claimed in claim 12, wherein the network is a GPRS network, and the core network node is an SGSN.

14. A method as claimed in claim 13, wherein the first message is a FLUSH-LL command.

15. A method as claimed in claim 1, wherein the network is a GPRS network, the first cell radio access node is a first BSS, and the second cell radio access node is a second BSS.

16. A method as claimed in claim 1, wherein the network is a GPRS network, the first cell radio access node is a first BSS, and the second cell radio access node is the first BSS.

17. A method as claimed in claim 1, wherein:
the network is a GPRS network;
the core network node comprises a first SGSN;
the first cell is in a first NSE served by the first SGSN; and
the second cell is in a second NSE served by a second SGSN; and
wherein the step of transmitting said data packets from the core network node to the second cell radio access node comprises transmitting said data packets from the first SGSN to the second SGSN and then to the second cell radio access node.

18. A radio access node, for use in a mobile communications network, the radio access node

comprising means for storing data packets before transmission to a mobile station, the radio access node further comprising:

means for acting on a first message from a core network node indicating a cell change of a mobile station, by:

discarding any data packets stored for transmission to the mobile station, and sending a reply message to the core network node, wherein said core network node is enabled to transmit said data packets, discarded in said radio access node, to the a second radio access node in response to said reply message.

19. A radio access node as claimed in claim 18, wherein said reply message indicates the number of data packets discarded in said radio access node.

20. A radio access node as claimed in claim 18, wherein said reply message specifically identifies the data packets discarded in said radio access node.

21. A radio access node as claimed in claim 18, wherein said reply message includes copies of the data packets discarded in the radio access node.

22. A radio access node as claimed in claim 18, wherein the network is a GPRS network, and the radio access node comprises a BSS.

23. A radio access node as claimed in claim 18, wherein the network is a GPRS network, and the core network node is an SGSN.

24. A radio access node as claimed in claim 23, wherein the first message is a FLUSH-LL command.

25. A core network node for use in a mobile communications network, in which data is transmitted from the core network node to a mobile station in packets, and in which data packets are stored in a respective radio access node before transmission to the mobile station, the core network node comprising:

means for detecting a cell change of a mobile station, from a first cell served by a first cell radio access node to a second cell served by a second cell radio access node;

means for sending a first message from the core network node to the first cell radio access node in response to a cell change detection, said first message causing the first cell radio access node to delete stored data packets intended for transmission to the mobile station;

means for receiving a reply to said first message and, in response to said reply, transmitting said data packets, discarded in the first cell radio access node, from the core network node to the second cell radio access node.

26. A core network node as claimed in claim 25, wherein said network is a GPRS network, and said core network node is an SGSN.

27. A core network node as claimed in claim 26, wherein, when the second cell is served by a second different SGSN, said node is adapted to transmit said discarded data packets to the second cell radio access node through the second SGSN.

28. A core network node as claimed in claim 25, wherein data may be transmitted from the core network node to a radio access node in acknowledged mode or in unacknowledged mode, wherein data transmitted in

unacknowledged mode are retained in the core network node for a predetermined time period, and wherein said reply message allows the data packets discarded in the first cell radio access node to be identified in the core network node.

29. A core network node as claimed in claim 28, wherein the network is a GPRS network, and the acknowledged mode and unacknowledged mode are LLC-acknowledged mode and LLC-unacknowledged mode respectively.